**Amendment to the Specification**

Please cancel the objected to Abstract and replace with the following Abstract:

Stand-alone or assistive pattern recognition system and process enabling error free classification of all objects in a training set and application to unclassified objects. Parameters and/or features of the data objects in a training set are selected and measured, from which discriminants are computed. The measured data is plotted in discriminant space and decision boundaries or thresholds determined, preferably such that at least one object from one class is isolated from the remaining objects, removed from the training set, and the process repeated until an acceptable number of unclassified objects remain. The system can be applied sequentially to classify all the members of the training set belonging to one class and then applied to objects in other classes. Fuzzy quantifiable determinations of an object's likelihood of class membership can be made. Objects' positions and classifications are obtainable in an optical system using Fourier techniques without limitation to linearly discriminable problems.

No new matter has been added by this amendment.